

PYRAMIDAL PARENT TRAINING BY PEERS

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This study replicated a pyramidal model of parent training by peers and compared its effects with training by a professional with 26 parents of children with disabilities. A multiple probe design across 3 tiers of parents showed that both types of training produced acquisition, maintenance, and to varying extents, generalization of parents' teaching skills, with concomitant increases in the children's performance in most cases. Improvements were comparable for parents trained by a professional or by peers, and for parents who did and did not serve as peer trainers.

DESCRIPTORS: children with developmental disabilities, parents, parent training, peer training, pyramidal training

The importance of parental involvement in the education of children who are at risk or who have disabilities and the benefits of training parents as intervention agents have been widely acknowledged (e.g., Bruder & Bricker, 1985; U.S. Department of Education, 1994). Increasingly, the role of these parents as teachers of their children has been expanded to training other parents in the use of procedures to facilitate children's acquisition of skills. The potential benefits of this model relative to relying on professionals as trainers include cost efficiency, enhanced maintenance of the skills taught on the part of the parent trainers, and the facilitation of a support network (Bruder & Bricker, 1985). In the study by Bruder and Bricker, for example, 3 parents of at-risk toddlers were trained by a special education professional in the use of four skills (target-behavior selection and task analysis, use of antecedents, use of consequences, and data-collection procedures) when teaching their children new behaviors; these parents then trained a second cohort of 3 parents who, in turn, trained a third cohort of 3 parents. Results showed that the 4-hr training

produced increases in the application of target teaching skills by all 9 parents and concomitant improvements in correct responding for 5 of the children during teaching sessions. The present study systematically replicated this pyramidal parent-training approach and compared its effects with those of training delivered by a professional with 26 parents of special education students.

METHOD

Twenty mothers and 6 fathers of children enrolled in a program for students with autism in a public elementary school volunteered to participate. (Demographic information on the participants is available from the author upon request.) Fourteen parents were assigned to peer parent training (PPT), and 12 were assigned to standard parent training (SPT). Probe sessions (described below) were conducted in a small classroom at the school or a clinic equipped with stimuli commonly found in the children's home environment. Training sessions were also conducted in these settings or at the participants' homes.

Two or three skills were identified for each child (e.g., coin discrimination or summation, counting, telling time, folding clothes, number recognition) based on parents' training priorities with respect to the child's individual education plan. Target instructional behaviors emphasized

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the use of teaching opportunities during daily routines and consisted of (a) selecting and arranging stimuli, (b) presenting instructions or questions, (c) providing prompts, (d) delivering consequences, (e) structuring the teaching sequence, and (f) recording data.

A multiple probe design across the three cohorts of 4 to 5 subjects was used for both PPT and SPT groups. Baseline probes for each of the identified child skills consisted of five trials in which the parent demonstrated with his or her child how the skill was typically taught. No feedback was provided. Subsequently, a professional with a master's degree in special education conducted parent training individually with the first tier of 5 parents from the PPT group. Training was conducted in one child skill area (which differed for each parent) and consisted of (a) reviewing a protocol describing potential instructional materials, definitions of the target behavior and component steps (if applicable), and guidelines for presenting stimuli and prompting and reinforcing responses; (b) modeling implementation of the procedure with the child; and (c) providing praise and suggestions as the parent practiced the procedure. Training sessions (lasting 15 to 30 min) continued until the parent successfully implemented the procedure. Posttraining probe sessions were then conducted, in the same manner as baseline. When the parent achieved a mastery criterion of at least 85% correct with the target task, he or she received coach training involving role-playing peer parent-training strategies (use of modeling, joint problem solving, praise, and feedback) and data collection (on trainee performance of aspects of the procedure and duration of training). Each Tier 1 parent then provided peer parent training in the target child skill area to a Tier 2 parent, assigned on the basis of functioning levels and instructional needs of their children and, where possible, demographic characteristics (e.g., gender) of the parents. When the data sheets completed by the parent trainer indicated mastery criterion, post-training probes were conducted. The above se-

quence was then repeated with 4 of the 5 Tier 2 parents serving as peer trainers for 4 Tier 3 parents. Four to 6 weeks after the termination of training for the final tier, a follow-up probe was conducted for all participants in the same manner as baseline to assess maintenance of target teaching behaviors and generalization to untrained child skill areas. Training (excluding coach training) and probes were conducted in an identical manner for parents in the SPT group, except that training for each parent was conducted by the professional.

During training and probe sessions, data were collected on the occurrence or nonoccurrence of each of the parent's teaching behaviors for each training trial. Selection and arrangement of stimuli was scored as correct if the stimuli used were natural to the event or activity (e.g., for counting, using objects the child was manipulating such as blocks stacked while playing or cups while setting a table) and were arranged to enable the appropriate response in a manner that was consistent with the child's skill level (e.g., sequencing the objects to be counted or presenting them one at a time). An instruction was defined as the first attempt per trial to initiate the child's response and was scored as correct if it was clear, appropriate to the task, presented when the child was attending to the parent or task materials, and was not repeated more than once per trial. A prompt was defined as an attempt by the parent to evoke the target response following the initial instruction, and could be verbal (e.g., modeling the correct vocal response), gestural (e.g., pointing), or physical (e.g., manual guidance). It was scored as correct if it was delivered within 5 to 10 s of the initial instruction (if the child did not respond) or after an incorrect response, and if the level did not exceed that sufficient to produce the response previously. A consequence was defined as the first interaction by the parent toward the child within 5 s of the child's completed response that did not fit the definition of an instruction or prompt. It was scored as correct if a positive consequence (e.g., praise or access to

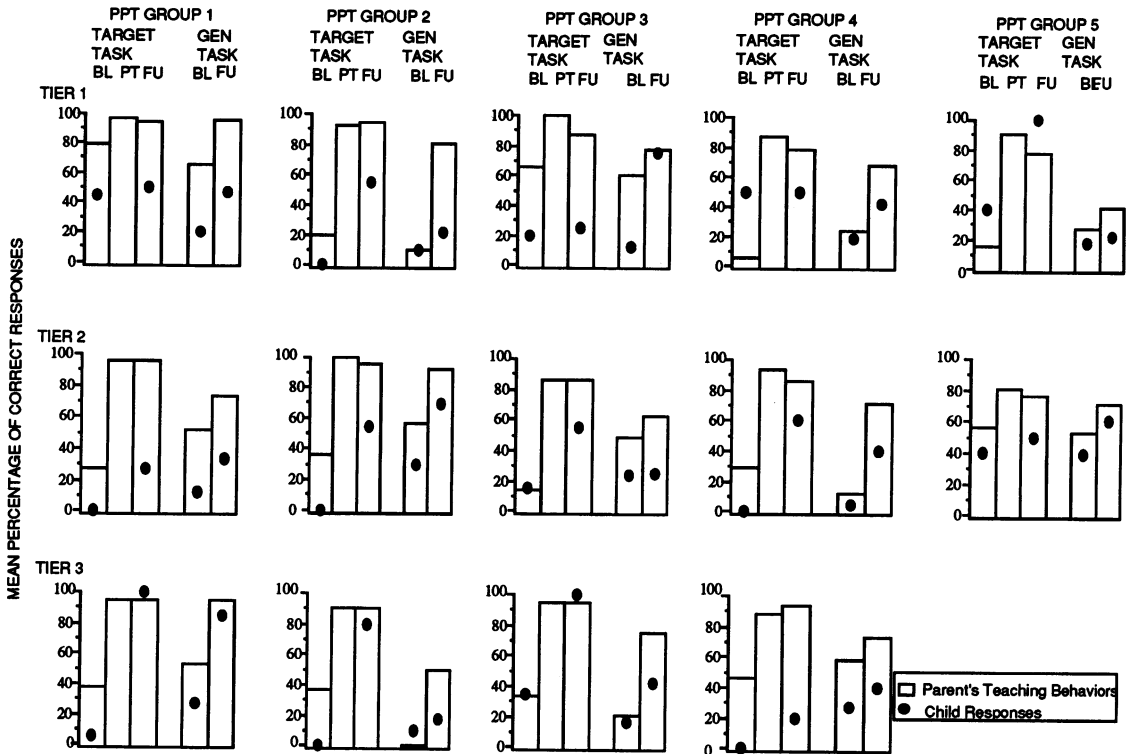


Figure 1. Mean percentage of correct parent teaching behaviors and children's responses for each experimental condition across tiers of participants in the peer parent-training groups.

the preferred stimulus) followed a correct response, and if it was unambiguous (e.g., descriptive). Structuring the training sequence was scored as correct if it conformed to the task analysis (if applicable) and to the child's previous performance (e.g., steps added sequentially or complexity increased only after correct performance of previous steps). Point-by-point mean interobserver agreement conducted on 85% of the probe sessions was 84.5%, 82.3%, and 95.8% for occurrences, nonoccurrences, and occurrences plus nonoccurrences, respectively.

To assess improvements in the child's skills, data on correct responding on five trials for each of the identified tasks were collected during baseline and follow-up probes administered by the special education professional. Correct responses for the tasks were defined in advance for each child. Point-by-point interobserver agreement on correct responses during 78% of

the probes averaged 96% or above for occurrence, nonoccurrence, and occurrence plus nonoccurrence.

RESULTS AND DISCUSSION

Data for the three tiers of parents from the PPT and SPT groups are presented in Figures 1 and 2, respectively. These data show the mean percentage of correct teaching behaviors (by parents) and task responses (by children) across baseline, posttraining, and follow-up probes for training and generalization tasks. (Results of the multiple probe for PPT and STP participants are available from the author upon request.)

For the PPT group, the performance of all parents on the training task increased substantially from baseline ($M = 35\%$; range, 15% to 79%) to posttraining ($M = 92\%$; range, 81% to 100%). The mean percentage increase was similar across the three successively trained tiers

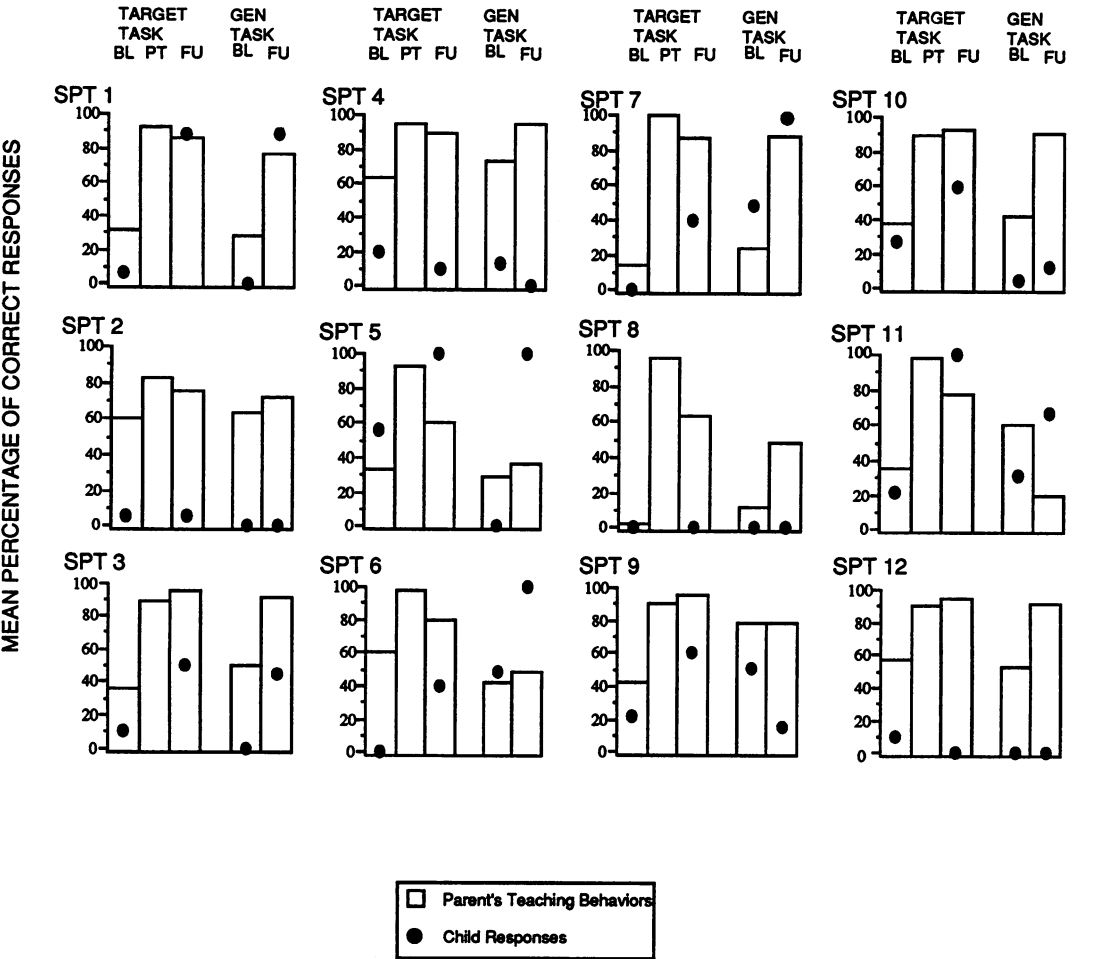


Figure 2. Mean percentage of correct parent teaching behaviors and children's responses for each experimental condition across participants in the standard parent-training groups.

(56%, 59%, and 54%, respectively). Performance gains were maintained well above baseline levels during follow-up ($M = 73\%$; range, 76% to 96%). All parents in the PPT group also showed improvements from baseline ($M = 39\%$; range, 0% to 65%) to follow-up ($M = 73\%$; range, 41% to 95%) on generalization tasks, although performance was generally not as high. The children's data show that, during baseline, the mean percentage of correct responses on the target task was below 33%; the percentage increase following parent training ranged from 20% to 95% for 11 of the children in the PPT group (3 showed minimal or no gains). The children's mean percentage increase

on generalization tasks was 26% (range, 1% to 63%).

As with the PPT group, training task performance of all parents in the SPT group improved from baseline ($M = 39\%$; range, 2% to 64%) to posttraining ($M = 93\%$; range, 83% to 100%), with a mean percentage increase of 53%. Similarly, these parents demonstrated 60% to 96% correct teaching behaviors during follow-up ($M = 84\%$). However, on the generalization task, only 7 of the parents showed substantial increases (ranging from 22% to 64%). For the others, performance on the generalization task increased only slightly (SPT 2, 5, and 6), remained unchanged (SPT 9), or de-

creased (SPT 11). Improvements in the SPT parents' teaching skills were accompanied by gains of 32% to 81% ($M = 53\%$) on the target task for 8 of the children. Seven of these children demonstrated increases ranging from 8% to 100% ($M = 51\%$) on the generalization task. Four children (SPT 2, 4, 8, and 12) showed no gains or slight decrements in correct responding on both the target and generalization tasks despite increases in their parents' teaching skills. Because we did not assess parents' use of the teaching procedures during their daily activities at home, it is difficult to determine whether these children's lack of progress was attributable to a limited frequency or duration of teaching or to aspects of the procedures. Given that, in some cases, changes in the children's performance did not correspond with changes in the parents' skills (e.g., the generalization task for SPT 11), these findings must be interpreted cautiously.

In general, gains on posttraining and maintenance probes were comparable for (a) parents trained by a professional or by peers and (b) parents who served as peer trainers and those

who did not. In addition, similar results were obtained for SPT and PPT groups in terms of training time ($M = 29$ min). Most important, however, the findings for the PPT group support those of Bruder and Bricker (1985) that peer parent training was effective in establishing proficient and generalized use of instructional strategies across two successive tiers of parents, with concomitant increases in the children's performance in most instances. Involving parents as intervention agents has the potential to actualize their unique contributions as both peers and partners in their children's education.

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